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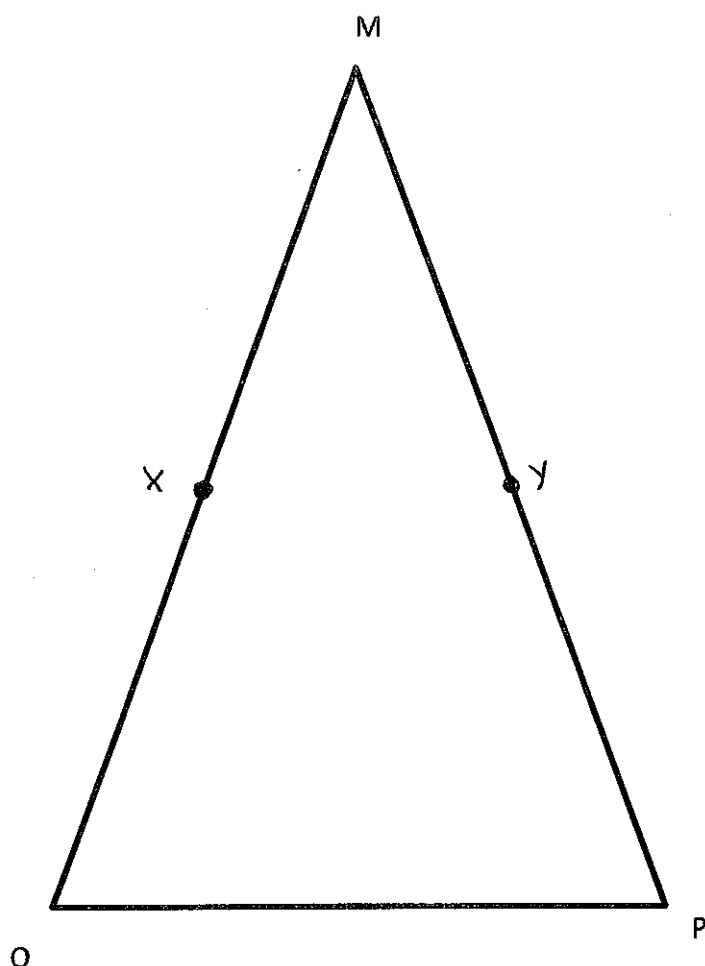
Per.: _____

Mid-Segment Theorem Part I

Mid-segment: A mid-segment of a triangle is a line segment that joins the midpoints of 2 sides of a triangle.

Exploration 1:

The midpoint for MO is point X. The midpoint for MP is point Y.



Step 1: Connect points X and Y.

Step 2: Label the mid-segment as "mid-segment"

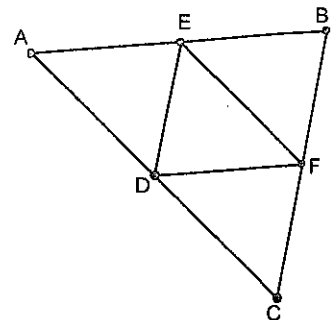
Step 3: Find the measures of the following lengths in cm:

XY =

OP =

Step 4: What is the relationship between XY and OP? (hint: there are 2 important relationships)

Mid-Segment THEOREM: The segment containing the midpoints of two sides of a triangle is parallel to the third side and half as long as the third side.



\overline{DE} , \overline{DF} , and \overline{EF} are midsegments of $\triangle ABC$. The midsegments of a triangle join the midpoints of the sides of the triangle.

Exploration 2:

1) Graph Triangle COW on the coordinate plane with C(-5, 6), O(1, 2) and W(-7, -2)

2) Find the midpoint of CO

3) Graph the midpoint of CO and label it as Q

4) Find the midpoint of CW

5) Graph the midpoint of CW and label it as R

6) Connect points Q and R

7) How can we show that QR is parallel to OW? Show that $QR \parallel OW$ below.

8) How can we show that QR is half the length of OW? Show this below!

